



THE HAWAII WINDPOWER WORKSHOP

Regulatory
Perspectives

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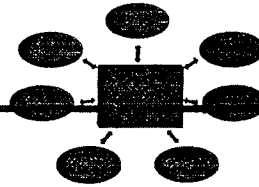
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IRP



- ▶ Essential for accurate comparison of very different resources
- ▶ Do not confuse principles with a particular regulatory process



New Initiatives

- ▶ Green Pricing
- ▶ Supply-Side Incentives
- ▶ Green RFPs
- ▶ Set-asides
- ▶ Safe Harbor Rules





Green Pricing



- ▶ Optional electric utility service for customers who want to increase their utility's reliance on renewable resources
- ▶ When a customer elects the green pricing option, the utility obligates itself to acquire new renewables
- ▶ Price premium is intended to cover the incremental cost of the new renewable resource.




Green Pricing Goals



- ▶ Develop and test a market-based mechanism
- ▶ Test customer willingness to choose an environmentally preferred resource mix
- ▶ Assist in the sustained orderly development of renewables



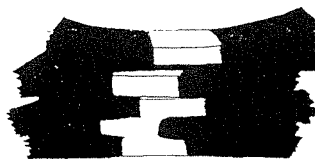
Essential Elements


- ▶ Alternative utility product or service
- ▶ Customers get renewables over and above what an LCP would dictate, i.e. non cost effective 
- Why not cost effective?
 - ▶ Technology
 - ▶ Timing
 - ▶ Low utility avoided costs
 - ▶ Site conditions



Supply-side Incentives

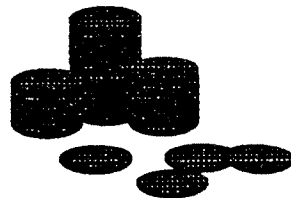
- ▶ An indirect way to begin removing contract and planning barriers
- ▶ Effective incentives could be very small
 - Compare 1 mil incentive to 15 mil tax credit
 - NEES Green RFP would be a \$200,000 incentive per year





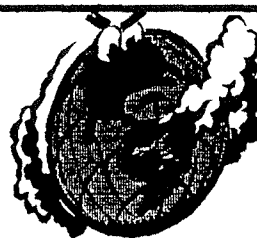
Supply-side Incentives (continued)

- ▶ Wisconsin is only state with incentives (May 93)
 - .75 cents/kWh for wind, PV, solar thermal
 - .25 cents/kWh for biomass, MSW
- ▶ Puget 's "1 mil provided that..." proposal rejected



Green RFPs

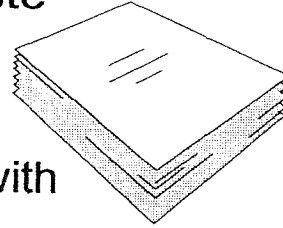
- ▶ Objectives
 - Learning and resource planning benefits
 - ▶ Options to address tightening environmental requirements and global warming concerns
 - ▶ Possible "no regrets" strategy
 - Environmental benefits
 - ▶ Greenhouse gas emission reductions
 - ▶ Zero emission resources





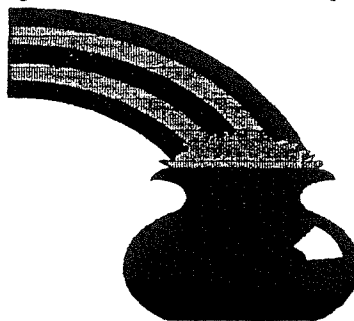
Green RFPs (Continued)

- ▶ Targeted solicitation for waste and renewable generation
- ▶ Preferred projects
 - Use fuels and technologies with strong resource potential
 - Not fully explored in New England
- ▶ Less preferred projects
 - Do not expand renewable knowledge base
 - Significant environmental impact
 - Significant cost



Bottom Line

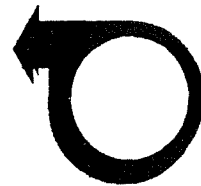
- ▶ NEES got more options more cheaply than they thought
- ▶ Regulatory actions now pending





What is a Set Aside

- A portion of an integrated resource plan devoted to learning about renewables
- Concentrates on demonstration and commercialization
- In addition to renewables R&D
- May involve innovative means of acquisition



Set Asides in IRP Benefits

- Regulators
 - Planning information
 - Limit utility and customer risk
 - Insurance policy value
- Utilities
 - Gather planning information
 - Learn costs and benefits
 - Learn applications, technologies
 - Aggregate markets for demand pull



Set Asides in IRP Benefits (cont'd)

- ▶ Customers
 - Hedge fuel price and availability risks
 - Hedge environmental uncertainties
 - Diversity resource portfolios
 - ▶ Long-term least-cost resources
 - ▶ Natural gas bridge to renewables
- ▶ Renewable industry
 - Planning information for financing, expansion
 - Builds relationships with utility customers
 - Sell equipment, services

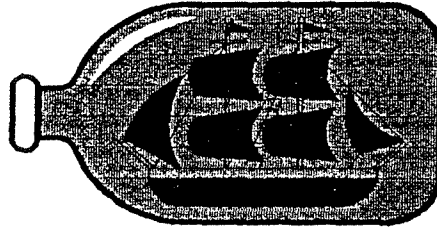
Safe Harbor

- ▶ Balances - utility desire for certainty and regulators desire to avoid pre-approval and removal of risk from managers
- ▶ The concept is simple and is used in other areas such as SEC
- ▶ By rule or decision regulators provide guidance and set forth limits within which cost recovery is more certain

Safe Harbor (continued)



- ▶ Differs from pre-approval by degree of specificity
- ▶ Examples:
 - Maine DSM rules
 - NY R&D 1% limit
 - IOWA DSM limit
- ▶ Utility remains at risk for prudent management





4.3.2 Panel Members

Collette Gomoto – Public Utilities Commission (PUC)

Ron Lehr –Attorney

Gerry Sumida –Attorney

Panel Responses

Ron Lehr –Attorney

In society, we pay investors to take risks. The tools that investors use to calculate risks and how they function have been fairly well developed by financial economics. In the IRP process, engineering economics compete with financial economics, Mr. Lehr asserted.

In utility planning, engineers generally oversee the planning process. Engineers tend to use shortcuts to get what they think of as value, according to Mr. Lehr.

In order to evaluate these long term projects in terms of today's dollars, utilities use a discounting technique to calculate the cost stream. The calculated cost stream is then multiplied by the discount rate in order to bring it back to present day value.

In calculating the cost stream, engineers borrow a term from the utility company's financial position, called the *weighted average costed capital* (WACC) to do the discounting. Engineers use that as the discounting rate.

This approach is wrong, Mr. Lehr contends because it understates the risk of fuel price and its availability risks.

WACC is what the investors have required to fund all of the facilities, including all of the oil fire and coal fire generators facilities, that the utility has in place to today. The cost in capital includes the risk of all these facilities.

If you are looking at a wind energy facilities or photovoltaic facilities, or any other alternative energy option, those technologies have their own risks. The big difference is in fuel risk. If you have to fuel a plant, then there will be a big cost stream of fuel that goes out into the future. If you look at that cost stream of fuel and apply a high discount rate such as WACC, within a few years, it looks like that fuel disappears.

Utilities can use a *risk adjusted discount rate* (RADR) in considering alternative resources. RADR is project specific and in particular, looks at the fuel cost stream over the long term future, he said. Given the fact that every fuel has different risks, those fuels that vary greatly using financial economics, would look riskier than fuels that do not vary as much. The process for calculating this discount rate is CAP M (*capital asset pricing model*) with the development of a *beta* for the fuel treated as an asset.

Colette Gomoto-PUC

The PUC considers any wind power proposal in the context of any utility's integrated resource program, Ms. Gomoto stated. It can be one of the utility's supply side reserve options. It can be submitted either as part of the utility's construction program or as a power purchase from an independent power producer for review and approval.

The PUC recognizes that renewable resources, such as wind power, are especially important to the people of Hawaii because of our vulnerability to petroleum shortages and our need to keep the environment and the skies free from pollution.

Wind power proposals must compete with other energy resources in order to be included in any kind of IRP program. These other energy resources include imported fuels, energy resources such as biomass, hydro, PV and demand-side energy resources also.

The PUC must determine that the wind power proposal is compatible with the preferred IRP in order to approve the proposal for implementation. Wind power generation with storage has not yet been identified in any of the utilities preferred plan in their initial IRPs. However, wind power resources have been considered in the utilities' screening process supply side options.

Initial IRPs are presently being reviewed by the commission and IRPs for GASCO and HEI have gone through evidentiary hearings, although no decisions have yet been made, she said.

The IRP framework does not include green pricing or set asides to foster the use of renewable resources. The benefits and costs of externalities are being considered in the ranking of resources. If the monetization of externalities is not practical than a qualitative analysis is done, she explained.

The IRP framework does not mandate air emission reductions for petroleum fuel generation over and above those required by federal and state regulations.

The broad environmental, social, cultural and public health benefits of wind power generation primarily accrue to society as a whole. In addition to consideration of these benefits with the IRP framework, the legislature could also consider incentives to foster the development of wind power resources. The cost of these benefits could then be charged, not just to rate payers, but to tax payers as a whole, she said in closing.

Gerry Sumida-Attorney

While acknowledging the importance of workshops in bringing key groups of people together to discuss the issues and advances in technology, Mr. Sumida said he was struck by the similarity in the Wind Energy Workshop held in 1984 at HNEI.

Some of the suggestions he made in addressing that workshop included the following:

- The PUC should move aggressively to implement the mini-PURPA standards to encourage development of renewable resources in the state of Hawaii.
- Hawaiian utilities should work very hard to dispel what is perceived to be an institutional attitude opposed to the development of renewable resource or obstructive of efforts of the independent power producer to obtain PURPA power purchase agreements.
- State and city agencies should work very carefully with alternative energy development and others to fashion a fast track permitting process and facilitate the development of renewable energy.
- State and counties, which have enacted alternative energy supportive legislation, should continue in that direction and should encourage regulatory agencies to facilitate that process as well.

All together, these observations represent the same themes of the current Windpower Workshop, Mr. Sumida noted with the exception of IRP and IRP issues.

By and large, Hawaii has a relatively supportive regulatory regime which is looked upon favorably and implemented by the PUC. Substantively, Hawaii does have a number of difficult issues concerning avoided costs and its concept, methodology and application. Because of the avoided cost issues, it is difficult in the state of Hawaii, for developers to get a good power purchase agreement, he explained.

It is very appropriate to discuss all of the means for developing wind power in Hawaii through various means, including permit facilitation, site assessment, data gathering, green pricing and favorable laws, externalities and IRP. However, the basic point is this, who does these kinds of projects, assuming we want these projects to be developed? Either the utilities do or private developers do because they expect to get a reasonable rate of return on their investment.

This very basic point is forgotten in the discussion of macro policy issues. But it seems obvious when it comes down to the question of wind energy development and wind power projects, you are not going to get any wind energy projects unless you have someone who is willing to buy that energy from you at a price that will support a reasonable rate of return. And the seller of energy could be a utility company, an unrecognized subsidiary of that utility or a private developer. The point is, you need that basic contract, either a negative contract with the utility or a PURPA type contract with the issue of avoided costs, he said.

The avoided costs issue in this state still represents an unclear issue in contracts as well as a major issue with respect to the PUC proceedings taking place right now.

IRP is a very good movement sweeping the country which draws vast elements of the public and other interested parties into a process, not only to assist the existing utility energy policy, but also to ensure that the policy reflects some other basic areas of concern.

The problem in this process is that there is essentially no integrated role for nonutility generational sources, including wind generational sources in the utility IRP. Is wind considered? Yes. Is wind mentioned? Yes. Is wind analyzed and assessed? Yes. Is wind considered over the long range? Yes. Is it part of the utility's plan, effectively integrated into its long range plan? No.

So, if you talk about the IRP process, if you talk about whether wind, utility or nonutility owned wind resources are effectively integrated into the IRP process, the answer is no. That is a fairly significant issue and it is not as open and shut and as clean a process as it has been made out to be during the course of this workshop. It is an issue that is being discussed in PUC hearings right now and we do not yet know what that utility IRP will look like when the PUC rules on it.

Mr. Sumida affirmed his believe in a joint collaborative process because it is better to have a total *win-win* situation than a *zero-sum* situation, even if everyone has to give a little. Nobody likes litigation since it generally has very little effect on this kind of situation.

Nonetheless, there does exist a rather unfortunate perspective in Hawaii whereby the utility considers any one involved in energy development as a competitor which promotes an *us vs. them* situation.

We all know the reason why Congress passed PURPA statutes and mandated the adoption of these statutes by all of the states, was to equalize the bargaining power between the utility or nonutility or qualifying facilities. Much has been accomplished because of PURPA.

Nonetheless, the *us vs. them* perspective is counterproductive. If there could be any effective change, it would have to be the implementation of a total cooperative agreement. Then much in terms of wind development could take place. However, it takes two to tango and so far, we do not quite have that, he said.

In the absence of that, the adversarial proceedings, taking place right now in the context of the IRP hearings with the PUC, will have to prevail even though we do prefer that alternative mode.

Question:

One area of concern for the utility is the effect of having too many sellers of power in its system and the negative impact on bond ratings and the ability of the utility to make money. Is this a problem? (Have the Wall Street analysts downgraded the bond rates of the companies with a lot of purchase power?)

Answer:

Ron Lebr—Attorney

Yes. The response has to be yes if you want the utility to involve the private power sector in their future. They have to have some upside. The utility is set up to invest money and to make a return on investment. That is the basic incentive that is in place now.

So the reform that is needed is a system that rewards the utility for its acquisitions. The utility that does a good job on acquisition, makes money; while the utility that does a bad job at acquisition and meeting its goals efficiently and on time, has a penalty. The PUC has to think of its role not only as a regulator of a monopoly, a single seller into a market, but it also has to become a regulator of a monoposony, a single buyer into a market. So now the PUC has to be concerned with things like: the content of the RFP, the evaluation process, the kind of notice to bid given, fair and open bidding, and the timeliness and effectiveness of negotiations.

Gerry Sumida—Attorney

I would like to supplement his answer in two ways:

- 1) The issue of power purchase and its impact on bond rating has been an issue raised at a number of PUC hearings.

The California PUC dealt with the issue in a fairly extensive hearing. The net result was a careful dissection of the rating companies' analyses, in this case Moody and S&P, which showed that the assumption that power purchases had an impact on bond rating was not well-based.

- 2) In Hawaii, one of the proceedings here dealt with the issue as well. Through an information request by the PUC, the utility was asked to produce material to support the impact on bond rating. The supporting material, received in the form of telexes and other issues from the rating companies, mentioned two things as impacting bond rating:

- regulatory climate - the length of time it took to receive PUC decisions, and
- construction costs.

Purchase power was not mentioned as an impact on bond rating. So either it is a red herring or it is a little more complicated than it has been made out to be.

Question:

How do you include independent power producers in the IRP process when the IRP being processed by the PUC is essentially already planned and excludes proposals from independent power producers?

Answer:

David Moskowitz—Regulatory Assistance Project

Allowing independent power producers (IPP) to participate in the IRP process in the context of providing information and participating in workshops in going over the IRP, is very different from taking an actual IPP proposal and including it in the IRP. I would not recommend it. In addition to being very costly and foreign to the IRP process, it would set up a process that by its very nature, pits the supplier against the purchaser. The IRP is more a process than an implementation plan. And at the end of that process, when you have what you think is the best plan with the information that you have gotten which may or may not include all of the things that IPPs have to offer, that is when you turn it over to the competitive market.

Twenty-five states have supplemented the IRP process, essentially at the end, with competitive bidding. The purpose of that market test is to ask the independent power producers and other market players, the fundamental question: can you provide anything that lowers the cost of what I now show is my IRP. If you can lower the cost, that is another way of saying that you beat my avoided cost. Then you take it.

Providing that opportunity for competitive bidding at the end of the IRP has proven to be a workable solution to work the IPPs' input into the IRP process and minimize the standard adversarial approach and the necessity for litigation.

Ron Lebr—Attorney

The Texas Utility Electric Company, the largest utility company per kWh in the country, has issued bids for renewable energy power to use in their IRP.

Conceptually, I do not think there is a perfect way to solve this *chicken and egg* situation. The answer, I think, is for the PUC to come out and state that what you do first is only a problem the first time you do an IRP. But the second time, you would have always just done the other one, whether its bidding or planning. The second time you do it, it's not a problem.